U.S. EPA's Environmental Technology Verification Program

Advanced Monitoring Systems Center

What is ETV?

The U.S. Environmental Protection Agency (EPA) established the Environmental Technology Verification (ETV) Program in 1995 to verify the performance of innovative technical solutions to problems that threaten human health or the environment.

ETV's mission is to accelerate the use of new environmental technologies in the domestic and international marketplace.

ETV provides third-party, quality-assured performance data so buyers and users of environmental technologies can make informed purchase and application decisions.

ETV operates through public/private testing partnerships (called Centers) to evaluate the performance of environmental technologies for monitoring, pollution control, and pollution prevention.

Various groups are actively involved in the ETV Program, including stakeholders, technology buyers and users, vendors, permitters, technology experts, consulting engineers, and investment companies.

All test protocols, test plans, verification reports and statements are on the ETV Web Site at http://www.epa.gov/etv.

The U.S. Environmental Protection Agency's (EPA) partner in the Advanced Monitoring Systems (AMS) Center is Battelle, a nonprofit technology research and development organization with headquarters in Columbus, Ohio. The AMS Center, which began in October 1997, verifies the performance of commercially available technologies that monitor natural species and contaminants in air, water, and soil. In the fall of 2002, the scope of the AMS Center was expanded to include verifying the performance of detection and monitoring technologies. In a related effort, Battelle is also verifying technologies that measure intentional contamination of the nation's drinking water supplies.

The AMS Center develops verification test plans, conducts independent tests of technologies, and prepares verification reports and statements for the technologies tested. Vendors of these technologies can use the verification reports and statements for marketing purposes. Regulators, permitters, and users of the verified technologies can refer to the verification reports and statements to help make permitting and purchasing decisions. To date, the AMS Center has completed verification tests of 42 monitoring technologies, including mercury continuous emission monitors, portable water analyzers, and ambient fine particulate monitors. Nearly 50 additional technologies are in the verification testing process.

How the AMS Center Works

Assisting Battelle are stakeholder committees whose members are drawn from diverse backgrounds, such as state and local regulatory agencies, professional and trade associations, industry, academia, environmental groups, investment companies, and the federal government. The stakeholders help Battelle prioritize environmental monitoring needs; identify commercially available technologies that meet those needs; help develop test protocols and plans; serve as test observers; and review test reports.

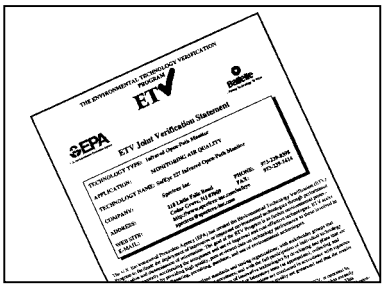
Once a technology category has been prioritized for verification, the test plan is drafted by Battelle, with input from stakeholders and vendors, and reviewed by participating vendors, stakeholder volunteers, and EPA representatives. The test location is selected, with input from vendors participating in the test and

(See Works on page 2)

The AMS Center's technology verifications aid efforts to monitor and resolve environmental problems throughout the nation.

Battelle
. . . Putting Technology To Work

Photos courtesy of the National Renewable Energy Laboratory



Two multi-parameter water probes (above) were tested in collaboration with NOAA's research center in Charleston, SC. Technology vendors can use ETV verification reports and statements (at left) in marketing their technologies.

Works *(from page 1)*

stakeholder volunteers. The AMS Center seeks test collaborators—such as agencies, organizations, or associations—that can provide the test site, testing equipment, technical support personnel, or other contributions to help defray costs. Battelle conducts the test and drafts a verification report and statement for each technology verified. The draft is reviewed by the vendor's representative, stakeholder volunteers, and EPA officials. After the reports and statements are approved, the statements are signed by an EPA laboratory director.

Useful Marketing Tool

Vendors have realized the value of having independent verification data for use in marketing their technologies. In a survey of vendors who had participated in ETV verification tests, nearly all reported that their verification statements were useful in marketing and that they would submit another technology for verification.

Two vendors who participated in the AMS Center's verification test for portable nitric oxide/nitrogen dioxide (NO/NO_2) emission analyzers said that customers waited to buy their instruments until they were verified by ETV. Other vendors said the verification process was valuable because of EPA's involvement, the credibility of independent testing, the assurance the verification statements and reports give to potential customers, and the marketing visibility of the ETV disk.

Contacts: For additional information or to receive the AMS monthly newsletter, *The Monitor*, please contact: Helen Latham at Battelle, phone: 614-424-4062; fax 614-424-5601; e-mail: **lathamh@battelle.org**. Information is on the ETV Web Site at **http://www.epa.gov/etv/centers/center1.html.**

Potential Benefits of ETV

For technology developers and vendors:

- Increased credibility due to independent, third-party testing, providing high-quality, consistent, and widely accepted data
- Access to expertise in developing, verifying, and applying environmental monitoring technologies
- Reduced technology verifications required for the technology's acceptance by multiple states and localities
- Enhanced acceptance of environmental technologies by regulators and permitters
- A sound, science-based marketing tool
- Increased public awareness due to ETV's outreach efforts, e.g., publications, Web site, conferences
- Increased markets and business opportunities
- Added confidence for investors, stockholders, lenders

For technology users and purchasers:

- Aid in evaluating a variety of environmental monitoring technologies
- Access to credible performance data
- Assurance that the technology's performance is independently verified
- Increased availability of technologies that meet users' needs

For regulators and permitters:

- Confidence that the technology's performance has been verified by an independent third party
- Validation by colleagues who are ETV stakeholder committee members
- Test data addressing realistic requirements but not limited to any single state's regulations
- Technological basis for streamlining the regulatory process and/or simplifying and revising regulations
- Increased ability to make informed decisions
- More rapid deployment of technologies to meet an agency's requirements

For everyone:

- Cost-effective and efficient solutions to environmental challenges
- Growth of environmental technology sector
- Increased competitive advantage for U.S. environmental technologies in the global marketplace.

3/03